**Sarah KOSTA**

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**EDUCATION**

2007-2010: Bachelor’s degree in Physics (Summa Cum Laude)  
University of Liège, Belgium

2010-2012: Master’s degree in Physics (Summa Cum Laude)  
University of Liège, Belgium

2012-2018: PhD in Physics, University of Liège, Belgium

Thesis: “*In silico* analysis of the Frank-Starling mechanism”  
Advisor/Co-advisor: Prof. P. Dauby and Prof. M. Hoebeke  
Jury: Prof. J. Braggard, Dr. T. Desaive, Prof. P. Kolh, Dr. J. Lumens , Prof. A. Seret and Prof. V. Seutin

**EMPLOYEMENT**

2012-2018: Teaching Assistant, University of Liège, Belgium

2018-2019: Pedagogical Assistant, University of Liège, Belgium

2020-present: Postdoctoral Scholar, University of Kentucky, Kentucky, USA

**SKILLS**

*Programming* MatLab, Mathematica, Python. Basic knowledge of C++, HTML, Javascript

*Teaching* General Physics, Analytical Mechanics, Modeling of Biological Systems

*Languages* French (native speaker), English (excellent command)

**PUBLICATIONS**

* Pironet, A., Dauby, P., Paeme, S., Kosta, S., Chase, J. G., & Desaive, T. (2013). Simulation of Left Atrial Function Using a Multi-Scale Model of the Cardiovascular System. PLoS ONE, 8(6), 65146.
* Pironet, A., Desaive, T., Kosta, S., Lucas, A., Paeme, S., Collet, A., Pretty, C., Kolh, P., & Dauby, P. (2013). A multi-scale cardiovascular system model can account for the load-dependence of the  
  end-systolic pressure-volume relationship. BioMedical Engineering OnLine, 12(1), 8.
* Kosta, S., Negroni, J., Lascano, E., & Dauby, P. (2017). Multiscale model of the human cardiovascular system: Description of heart failure and comparison of contractility indices. Mathematical Biosciences, 284, 71-79.
* Lascano, E. C., Felice, J. I., Wray, S., Kosta, S., Dauby, P., Cabrera-Fischer, E. I., & Negroni, J. A. (2018). Experimental assessment of a myocyte-based multiscale model of cardiac contractile dysfunction. Journal of Theoretical Biology, 456,16-28.
* Kosta, S., Dauby, P. (in press). Frank-Starling mechanism, fluid responsiveness, and length-dependent activation: unravelling the multiscale behaviors with an in silico analysis. PLOS Computational Biology.
* Kosta, S., Colli, D., Ye, Q., Campbell, K. S. (2021). FiberSim: a flexible open-source model of myofilament-level contraction. Manuscript submitted for publication. doi:10.1101/2021.06.11.448126.

**ACTIVITIES AND INTERESTS**

* Improv comedy. Engaged in two amateur companies from Liège and Brussels.
* Scientific popularization projects. Engaged in scientific presentations aimed at high school students.